

***What is Claimed:***

1. A system for delivering a single drop of liquid to an eye of a subject, said system comprising:

5 a receiver adapted to receive a liquid to be delivered to an eye of a subject.

a transfer portion connected to said receiver to receive liquid therefrom, said transfer portion including a capillary tube to advance a drop of said liquid by gravity and capillary action to a lower discharge outlet of the capillary tube whereat the drop of liquid breaks away and drops from the  
10 capillary tube, and

a lid retractor supported adjacent to said discharge outlet of the capillary tube, said lid retractor being adapted for being pressed against the lower lid of the subject to form a cul-de-sac between the lower lid and the eye,  
15 said lower discharge outlet of said capillary tube being positioned adjacent to and above said lid retractor in a position to deposit the drop of liquid into the cul-de-sac.

2. The system of claim 1, wherein said receiver has a funnel shape for  
20 attaching to and receiving the liquid from a container containing the liquid.

3. The system of claim 1, wherein said capillary tube has a smooth inner surface along which the drop of liquid travels.

25 4. The system of claim 1, further comprising a one way valve between said receiver and said capillary tube which permits passage into said capillary tube of said drop of liquid and prevents reflux of the liquid from the capillary tube back into the receiver.

30 5. The system of claim 1, wherein said capillary tube has a lower end portion which is bent at an angle and is above said lid retractor.

6. The system of claim 1, wherein said lid retractor has a soft substance for contacting skin of the subject.
7. The system of claim 1, wherein said receiver, said transfer portion and said lid retractor are made of a low cost material.
8. The system of claim 7, wherein said low cost material is a plastic.
9. The system of claim 1, wherein said receiver has an upper end portion formed as a flexible bulb connected to a loading chamber.
10. The system of claim 9, further comprising finger engageable portions secured to said transfer portion to enable the subject to engage the finger engageable portions with a thumb and middle finger of one hand and press the bulb with a forefinger of the same hand to expel liquid from the device.
11. The system of claim 10, wherein said loading chamber has a valve opening for depositing liquid from a container into the loading chamber.
12. The system of claim 10, wherein said finger engageable portions include two rod members on opposite sides of said capillary tube, each rod member having a recess for engagement by a finger of the subject.
13. The system of claim 12, wherein said rod members are secured to said capillary tube.
14. The system of claim 12, wherein said rod members have lower ends fixed to said capillary tube and bent upper ends facing one another which is connected to the loading chamber.
15. The system of claim 1, wherein said capillary tube has an end portion provided with said lower discharge outlet, said end portion of said capillary tube being of conical shape.

16. The system of claim 1, comprising an extension on said capillary tube at said discharge outlet to guide flow of said drop of liquid to the eye of the subject.

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17. The system of claim 1, wherein said receiver has a flexible upper end shaped and dimensioned to grip a tip of a container of said liquid inserted therein.

10 18. The system of claim 17, comprising a sterile case sized to enclose said receiver, said transfer portion and said lid retractor.

15 19. A hand engageable device for administering eye drops to an eye of a subject, said device comprising liquid flow means for transporting liquid, one drop at a time, to a discharge outlet of the liquid flow means and lid retractor means adapted for being pressed against a lower lid of an eye of the subject to produce a cul-de-sac of the lower lid, said liquid flow means and said lid retractor means being integrated and arranged so that said discharge outlet is positioned to deposit a drop of liquid into the cul-de-sac when said lid  
20 retractor means is pressed against the lower lid.

20. The device of claim 19, wherein the liquid flow means comprises a capillary tube.

25 21. The device of claim 20, further comprising a receiver for receiving the liquid to be deposited as drops into the eye of the subject, said receiver being connected to said capillary tube to deliver said drop of liquid thereto.

30 22. The device of claim 20, wherein said liquid flow means comprises a one-way valve for passing said drop of liquid to the capillary tube.

23. Apparatus for depositing a drop of liquid into an eye of a subject, said apparatus comprising a manually held instrument including a lid retractor and

a liquid conveyor integrated and arranged so that liquid introduced into the liquid conveyor is advanced as a drop and deposited into an eye of a subject whose lower lid is retracted by the lid retractor.

5 24. The apparatus of claim 23, wherein said liquid conveyor comprises a capillary tube.

25. The apparatus of claim 24, wherein the liquid conveyor comprises a receiver to receive a drop of liquid, said receiver being connected to said  
10 capillary tube to deliver said drop of liquid thereto.

26. The apparatus of claim 24, wherein said liquid conveyor comprises a one-way valve for passing said drop of liquid to the capillary tube.

15 27. A method of depositing a drop of liquid into an eye of a subject comprising:

providing an instrument adapted for being held in one hand of the subject,

pressing, with said instrument, a lower lid of the subject to form a cul-  
20 de-sac of the lower lid, and

advancing a drop of liquid in the instrument to a discharge end thereof wherefrom the drop of liquid falls into the cul-de-sac.

28. The method of claim 27, wherein first the instrument is pressed against  
25 the lower lid of the subject to expose the cul-de-sac whereafter the liquid is introduced into the instrument and the drop of liquid is guided and advanced to the discharge end where it drops into the cul-de-sac.